THINK GIS

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esri UK

www.esriuk.com

THINK GIS

WELCOME
YOUR ROLE IN OUR FUTURE

GIS professionals have the insight, the skills and the technology to help build a more sustainable future, *explains Stuart Bonthrone, Managing Director of Esri UK.*

Our future is uncertain.

Current levels of human activity are unsustainable; biodiversity is in steep decline; renewable energy is, so far, insufficient; and extreme weather events are becoming commonplace. Indeed, the Secretary-General of the United Nations has issued of a 'code red for humanity' and warned that many of the changes we are seeing today are becoming irreversible.

It's a grim outlook, but it means that your role - and my role - is clear.

We need to do everything we can to help mitigate climate change and improve the sustainability of how people work, travel and live. This responsibility lies with us, because as GIS professionals, we have the insight, the skills and the technology to make a difference.

Already, GIS professionals in diverse organisations and across almost all industry sectors are using their GIS knowhow to help address a variety of climate change challenges. There are many ways in which GIS can help turn good intentions into good practice, and some of these are illustrated in this issue of ThinkGIS.

Firstly, GIS can help to promote understanding of what are, generally, very complex issues. The Met Office (page 3) is making climate data more accessible, so that all UK organisations can better understand how projected climate changes will impact their assets, premises and supply chains. Meanwhile, Ricardo (page 10) has migrated from ArcMap to ArcGIS Pro to help it make vitally important data on air quality and greenhouse gases available to governments.

Next, GIS can help change analysis into action. Stantec (page 11) has taken analysis of fire hydrant performance and turned it into a unique solution for firefighters that will help them tackle serious fires at residential and commercial properties. Likewise, analysis undertaken by the British Red Cross (page 7) is helping the charity to respond more effectively to the needs of vulnerable people.

GIS helps us to collaborate with other organisations, groups and the general public on schemes to improve biodiversity, such as the initiative driven by Thanet District Council to create more wildflower meadows for pollinators (page 12). It also helps us to share information and work with other external organisations in the event of extreme weather events, as demonstrated by Transport Scotland (page 13).

Finally, GIS can extend into the field to help organisations of all kinds work more efficiently, whether they are organising the security at a major event (Police Scotland, page 5) or constructing carbon-neutral, nuclear power plants (EDF, page 6).

While the outlook for climate change might be gloomy, I am encouraged by what so many of Esri UK's customers are already doing to reduce pollution, restore nature, implement more sustainable land use, scale back our consumption, operate more efficiently and much more besides. In the architecture, engineering and construction sectors, over eighty professionals from leading organisations, as well as government and academia, have recently collaborated on the development of a vision for a more sustainable built environment (page 4). GIS clearly has a role to play in making this particular vision a reality, as well as facilitating more sustainable operations across other industry sectors.

Climate change may be inevitable, but inaction isn't an option. So, join thousands of other GIS professionals worldwide and play your role in improving our future..

Stuart Bonthrone
Managing Director,
Esri UK

SUSTAINABLE FUTURE

THE MET OFFICE ENABLES SMART DECISIONS ON CLIMATE ACTION

To boost the nation's readiness for climate change, the Met Office is making it easier for UK organisations to use its data for strategic planning and take action to reduce risks.

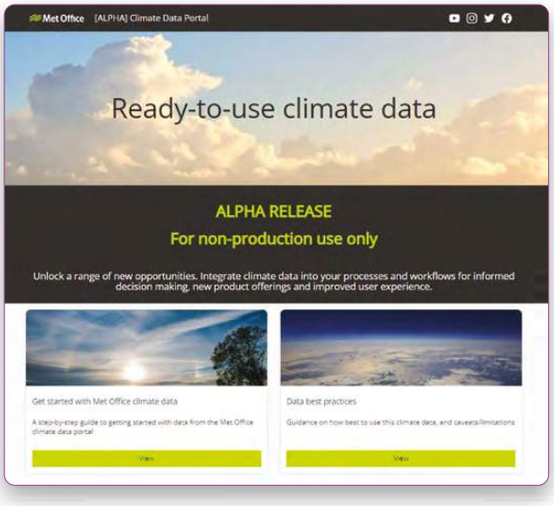
While organisations today are very aware of the threat of climate change, it is often difficult for them to find out precisely how and when specific changes will impact their operations and to what extent. To address this, the Met Office has created a new Climate Open Data Portal that provides a curated selection of its climate data available free of charge, in ready-to-use data formats.

Built using Esri's ArcGIS Hub, the Climate Open Data Portal makes it far easier for organisations to analyse climate change projections alongside their own business data to better understand their exposure to risks, such as increased flooding or public health consequences. Urban planners, engineers and developers can view projected heat exposure in cities to help plan green spaces, tree planting and air-conditioned public buildings.

Equally, land and fisheries managers can evaluate the likely impact on crops, livestock, fisheries and biodiversity and plan ahead to utilise more suitable varieties likely to flourish in the climatic conditions predicted for five to ten years' time.

A beta version of the Climate Open Data Portal is available now, offering easy access to an initial selection of the Met Office's climate data. GIS professionals are being invited to explore the portal and provide feedback on how well these resources meet their decision-making requirements and which additional climate datasets they might need. The range of data will then be expanded, and the portal will be further developed, to help organisations put actionable plans in place for a more sustainable future.

The Met Office Climate Open Data Portal



"The Met Office's new Climate Open Data Portal will enable people to explore how climate change will affect them and help transform climate awareness into climate action."

Professor Jason Lowe
OBE, Head of Climate Services, the Met Office

SUSTAINABLE FUTURE

COMPELLING NEW VISION DEFINED FOR BRITAIN'S BUILT ENVIRONMENTS

Industry leaders have joined forces to encourage the construction of more sustainable built environments in which people and nature can flourish together.

"Climate resilience, net zero, the circular economy and biodiversity – the great challenges of our age can't be solved in silos. That's why we need outcomes-focussed, systems-based solutions."

Mark Enzer
OBE FREng, Mott MacDonald

Over eighty professionals from leading organisations in the architecture, engineering and construction sectors, as well as government and academia, have collaborated on the development of a far-reaching vision for the built environment. This landmark document explains how organisations need to work together more effectively to improve the sustainability of the UK's built environment as a whole, not just individual parts.

GIS is an enabler of this new era of whole-system, whole-lifecycle, cross-industry coordination, because it can help to break down information silos, share data between organisations and improve collaboration across disparate teams. Everything is built somewhere, so geographic information provides a common language that different organisations can use to help them collaborate based around location and with a shared purpose to develop more sustainable infrastructure.

To achieve lasting outcomes for people and nature, the vision document explains that existing built environments must be improved to make them more sustainable, alongside the construction of new built environments that are sustainable by design. Organisations across a wide range of industries can use GIS to analyse and better understand how and where humans and wildlife interact within existing built environments. They can then use these insights to make better decisions about how to deliver effective interventions at a systems level and better balance the needs of nature and people to secure a more sustainable future.

Our Vision for the built environment can be viewed here:
visionforbuiltenvironment.com

50-75%
faster search and seal operations

FIELD MOBILITY

POLICE SCOTLAND STRENGTHENS SECURITY AT COP26

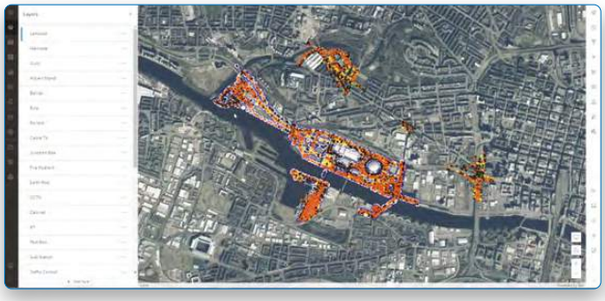
During the United Nations' COP26 Conference in Glasgow, Police Scotland used an ArcGIS-driven, mobile workflow to carry out efficient and highly robust security processes.

When Glasgow hosted COP26 in the autumn of 2021, security was of paramount importance. The event was due to host 104 Heads of State, several members of the British Royal Family and world-renowned environmental experts, as well as thousands of visitors and climate change activists. To help protect everyone, Police Scotland needed to search and seal around 7,000 drains, vents, other street furniture and voids in central Glasgow where improvised explosive devices and firearms could potentially be concealed.

Recognising that an operation on this massive scale would be almost impossible with its standard paper-based procedures, Police Scotland developed an ArcGIS-driven, digital workflow that enabled information to be shared in real time between teams in the field and commanding officers. The solution enabled the force to search and seal assets up to 75% faster than before and therefore secure a large area of the city with a relatively small team comprising specialist officers from multiple forces and additional partner resources.

Using ArcGIS Online and Field Maps, the new digital search and seal workflow enabled inspection teams to flag broken seals and raise concerns to senior officers instantly. Consequently, Police Scotland could respond to potential security issues more quickly throughout the two-week event. Senior officers could also monitor the progress of search and seal operations in real-time, on their mobile devices, see where seal damage was occurring most frequently and allocate teams to the areas of greatest risk to maximise security throughout this globally-important and high-profiled event.

The ArcGIS-based search and seal workflow developed by Police Scotland



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FIELD MOBILITY

EDF BUILDS BIG FOR A ZERO CARBON FUTURE

In the immense and highly complex construction of two new nuclear reactors, EDF is using ArcGIS Enterprise to help employees and contractors work safely and efficiently.

Already the UK's largest generator of zero carbon energy, EDF is currently building two new nuclear reactors at Hinkley Point C in Somerset to generate sustainable electricity for another six million homes. ArcGIS Enterprise has become a core business system for the project, helping EDF to improve the coordination of multiple programmes of work and share data with over 750 employees and third party contractors. The use of ArcGIS field apps, in particular, is transforming the way that people work across the 174 hectare site, replacing manual data collection methods and spreadsheets with streamlined mobile workflows.

One key ArcGIS-based solution enables EDF to plan and manage the coordination of temporary works, such as scaffolding, excavations and earth works. Inspection data collected across the site using ArcGIS Field Maps and Survey123 is instantly visible in ArcGIS Dashboards. Consequently, it is much easier for managers to ensure that one contractor's activities do not impede another's and cause unnecessary delays in the delivery of the much-needed new power plant.

Similarly, EDF's emergency team at Hinkley Point C uses ArcGIS solutions in the field to check that rendezvous points are accessible, so that medical aid and assistance can be delivered promptly in an emergency. If any obstructions or other issues are identified, details can be collected immediately in the field and routed directly to those who can remedy them. This allows safety measures to be assured far more quickly, protecting more than 6,500 people who can be on site at any one time.

"The number of people using ArcGIS is growing every day, as more and more people become aware of what ArcGIS has to offer."

Jon Dolphin
GIS Lead, Nuclear New Build, EDF

An overview of the Hinkley Point C site in ArcGIS

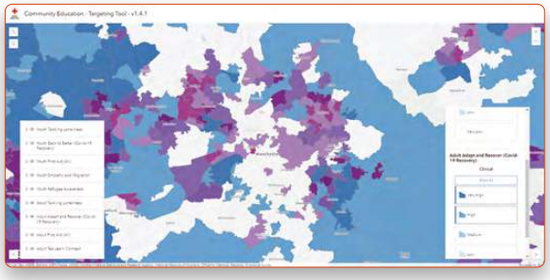
750+
employees and third-party contractors use ArcGIS web apps, field apps and dashboards

230 partner organisations shared insight during COVID-19 lockdowns

ANALYTICAL INSIGHTS

THE BRITISH RED CROSS SUPPORTS PEOPLE IN CRISIS

From sheltering people who have lost everything in house fires to supporting people made vulnerable through lockdowns, the British Red Cross uses ArcGIS to deliver a fast and effective response.



ArcGIS reveals the best locations for educational workshops, based on areas of greatest need

The British Red Cross has been providing practical and emotional support for people in crisis in the UK and overseas for 150 years. Today, the charity can respond to all kinds of emergencies more efficiently, using a web mapping tool that makes it easier to identify the response teams and resources closest to those who require urgent help. Created using ArcGIS Online, the tool allows staff to access all the information they need to source volunteers and initiate the most appropriate response, 24/7.

At the onset of the coronavirus pandemic, the British Red Cross used ArcGIS to rapidly create a COVID-19 Response App and a COVID-19 Vulnerability Index Map, which provided its staff, volunteers and 230 partner organisations with a shared understanding of the fast-moving situation. As everyone could see the same data, it was easier to coordinate the activities of multiple voluntary organisations and ensure that support was provided to groups most affected by lockdowns or furloughs.

To help shape its services for the future, the British Red Cross has used ArcGIS to identify the optimum locations for emergency response vehicles and reposition them to make them more accessible to the largest number of volunteers. It has also analysed the best locations for community education services based on the locations of people most likely to use them. Through initiatives like these, the charity can focus its services where they are most needed and have an even more positive impact on the communities it serves.

"The efficiency gains delivered by ArcGIS will allow the British Red Cross to support people in crisis faster and more effectively."

Paul Knight
GIS and Information Management Technical Advisor, British Red Cross

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TAKING ACTION TO ADDRESS CLIMATE CHANGE

The COP26 Climate Change Conference in Glasgow last year shone an intense light on climate change and highlighted the immense challenges ahead. Yet, organisations of all kinds are already taking practical steps to help slow climate change, restore the natural environment and operate more sustainably to build a better future.

Esri UK has produced an interactive StoryMap showcasing how customers in the UK and Ireland are using ArcGIS in a myriad of different ways to address their own climate change challenges. Whether these organisations are responding to the increased risk of flooding, adopting more sustainable land use practices, revitalising peat bogs or pioneering new renewable forms of energy, ArcGIS is helping them to identify risks, make informed decisions and take action.

View the StoryMap

RENEWABLE ENERGY

Dalcour Maclaren is using ArcGIS to accelerate the implementation of new green energy schemes and help bolster the supply of green energy across the UK and Ireland. Meanwhile the social enterprise Greenspace Scotland has conducted new research with ArcGIS highlighting where low carbon heating infrastructure could be hosted within Scotland's 516 urban settlements.

HEALTHY CITIES

In the UK's capital, Transport for London (TfL) is using ArcGIS to help it deliver a range of schemes to reduce people's exposure to harmful emissions and support the Mayor of London's campaign to create healthy streets. Similarly, in Edinburgh, design consultancy Atkins has used ArcGIS to quantify the value of the city's natural capital and identify priority areas where biodiversity and nature can be enhanced.

CLIMATE RISK

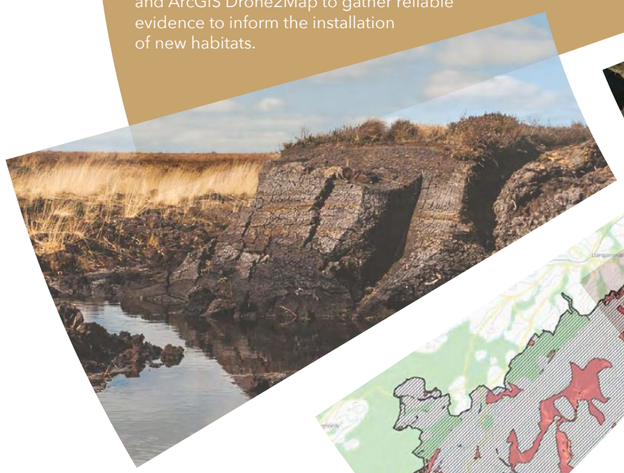
The National Trust has used ArcGIS Online to produce an interactive, climate hazards map that gives its staff and partners the foresight they need to protect historic buildings and monuments, as well as coastline and countryside. On a more global level, Willis Tower Watson conducts advanced geospatial analysis with ArcGIS to help its clients identify, measure and respond to climate-related risks and opportunities, at business locations around the world.

ENVIRONMENTAL CHANGES

As the world faces an uncertain future, organisations like Ricardo are using ArcGIS to monitor how quickly changes are actually occurring in our environment. At the same time, the Environment Agency relies on a suite of ArcGIS solutions to help it respond to environmental changes like increased flooding, by collecting, analysing and sharing information about floods, as they happen.

HABITAT CONSERVATION

After extracting peat commercially from Ireland's bogs for more than 70 years, Bord na Móna is now using ArcGIS to plan and implement the most appropriate rehabilitation measures to reinstate biodiversity and natural peatland function. In Wales, Natural Resources Wales uses drones and ArcGIS Drone2Map to gather reliable evidence to inform the installation of new habitats.



SUSTAINABLE LAND USE

The Department for Agriculture, Environment and Rural Affairs (DAERA) in Northern Ireland is using ArcGIS to help it select the most advantageous land management options and ensure funding has the greatest positive impact on the environment. In addition, independent research, conducted using ArcGIS, has shown precisely where new forests could be established in the UK to offset up to 28% of the MOD's annual carbon footprint.

SEA LEVEL RISES

Concerned about sea level rises, researchers in Scotland have mapped the likely extent of coastal erosion in Scotland, using ArcGIS to help them identify that assets with a value of £1.2 billion will be at risk from sea level rises by 2050. City of London Corporation has also used ArcGIS to model likely future changes in the Thames and propose developments to reduce flood risks and improve riverside environments.

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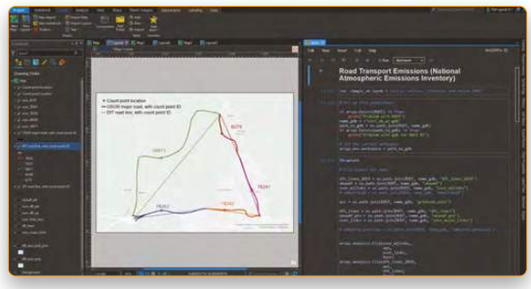
10x
faster processing of high-volume data

ANALYTICAL INSIGHTS

RICARDO CALCULATES GREENHOUSE GAS EMISSION



ArcGIS Pro enables emissions levels to be accurately attributed to the UK road network

"ArcGIS Pro is helping us to create high quality data that can be used by governments to help improve the world we live in for us, our kids and future generations."

Ioannis Tsagatakis
Principal Environmental Consultant, Ricardo

The migration from ArcMap to ArcGIS Pro has made it easier for Ricardo to provide governments worldwide with accurate data on air quality and greenhouse gas emissions.

Ever since the London smogs of the 1950s, Ricardo has been working with the UK government – and other governments around the world – to help them monitor and understand changes in air quality and greenhouse gas emissions. The consultancy's Energy & Environment division uses ArcGIS to create and share data that can be used by air quality modellers, academics and policy makers to formulate the best new policies to improve public health and slow climate change.

Having used ArcMap on its desktops for many years, the organisation has recently transitioned to ArcGIS Pro, giving users improved access to all the tools they need for data processing and management, all in one place. This migration has also enabled Ricardo to create new, repeatable processes for performing highly complex, large-scale data analyses significantly more quickly and cost effectively than before.

Once its data analysis is complete, Ricardo relies on ArcGIS again to help it share its critical environmental data more easily with government clients including the Department of Business, Energy and Industrial Strategy (BEIS) and the Department of Environment, Food and Rural Affairs (DEFRA) in the UK, as well as government departments in Cyprus and Peru. Ricardo creates web apps in ArcGIS Online that enable its clients to explore the data on interactive maps and gain clearer insight into the environmental challenges they urgently need to address.

ANALYTICAL INSIGHTS

STANTEC HELPS FIREFIGHTERS EXTINGUISH FIRE

Having conducted ground-breaking analysis into water hydrant performance, Stantec is now giving firefighters real-time access to the data they need to help them extinguish fires.

Major fires in recent years have highlighted how vitally important it is for fire brigades to be able to access vast quantities of water, exceptionally quickly, in the event of serious incidents. A blaze at a multi-story residence, school or commercial premises could require 35 to 75 litres of water per second to bring it under control.

The professional services company Stantec has developed a Fire Flow System that accurately calculates the available water flow at all 1.7 million residential, public and commercial buildings across Greater London. When 999 calls are received, London Fire Brigade can use a web map to see exactly which hydrants are closest to the fire, within reach of hoses and able to deliver the required water pressure and water volume. With accurate information available to them online, in real-time, firefighters can implement the most effective strategies to extinguish fires quickly.

Developed using ArcGIS Pro and ArcGIS Online, the Fire Flow System is being used by London Fire Brigade and Thames Water to identify specific, hard-to-reach buildings where mitigations are needed to improve the availability of water in the event of a fire. It is also being used during planning applications to ascertain if a particular building has sufficient water flow to permit a change of use or new development. In these ways, the solution is informing fire contingency plans and investments in new hydrants, which will help to make London a safer place to live and work.

Buildings with limited access to water hydrants with the required water flow are highlighted in red

"Our innovative use of ArcGIS has, for the first time, quantified the likely fire flows at each hydrant in London, enabling hydrant performance to be understood across the city."

Michael Morrisroe
Technical Director, Stantec

140,000
fire hydrants analysed in Greater London

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97%
of the UK's wildflower meadows have been lost since the 1930s

COLLABORATIVE WORKING

THANET DISTRICT COUNCIL CREATES HABITATS FOR POLLINATORS

In north-east Kent, Thanet District Council is using ArcGIS Hub to engage with the public and build awareness of the need to create new wildflower meadow habitats for pollinators.

"What started with a few bags of wildflower seeds has grown through the use of ArcGIS into an ambitious, community-engaged initiative to protect our pollinators."

Jessica Seaward
Digital User Experience Manager, Thanet District Council

Almost all species of pollinators – from bees and hoverflies to butterflies and beetles – are in decline in the UK, due to the loss of their natural habitats. This poses a significant threat to crop yields, as well as the biodiversity of our countryside and gardens. Thanet District Council has launched an initiative to try to protect the region's precious pollinators by establishing new wildflower meadows where insects can thrive.

To support the programme, the council has created an ArcGIS Hub that allows members of the public to view a map showing where the new wildflower meadows are located. They can also complete an integrated survey form to suggest locations where additional meadows could be established, in places such as roadside verges, parks, roundabouts and alongside footpaths. By engaging the public's support, the council aims to transform underused patches of ground around the region into an expanding network of wildflower habitats.

The ArcGIS Hub also enables local schools and community groups to register their own wildflower meadows and take an active role in helping the council to improve biodiversity. All the wildflower meadows created by the council, schools, groups and individuals will be displayed on a single, interactive map, giving citizens a transparent view of how the scheme is progressing over time. The council can also use ArcGIS Hub to see the distance between meadows and prioritise the creation of new habitats in areas where there are none, to improve pollination across the entire district.

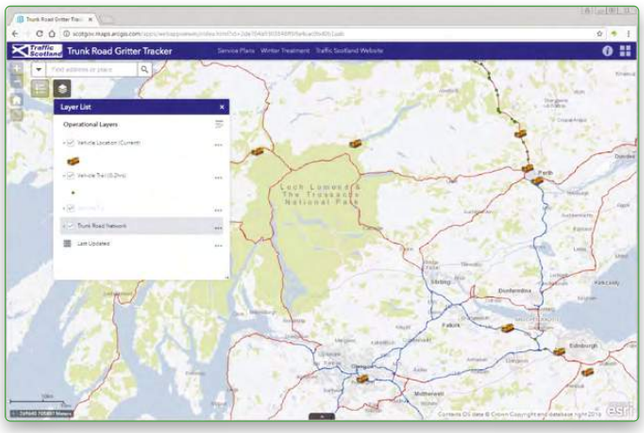
Thanet District Council's ArcGIS Hub shows the current pollinator zones.

View at:
thanet.gov.uk/wildflower-map

COLLABORATIVE WORKING

TRANSPORT SCOTLAND PUTS GRITTING ON THE MAP

Road users in Scotland can see for themselves precisely which roads are being gritted in bad weather, by taking advantage of an interactive ArcGIS app.



Transport Scotland's ArcGIS-based Gritter Tracker

During exceptionally challenging weather conditions this winter, Transport Scotland has been using an ArcGIS app to put gritting on the map and improve public awareness of the full extent of gritting services carried out in Scotland. The organisation is responsible for ensuring that over 2,179 miles of trunk roads and motorway are gritted throughout the winter, using 230 gritting trucks.

Developed, hosted and managed by Esri UK, through its Managed Cloud Service, the app includes a bespoke API that streams data from nine separate GPS tracking systems, used by Transport Scotland's nine operating companies, and presents the locations of all gritters on trunk roads in Scotland, on one live, interactive map. Members of the public can view this app during winter months to see for themselves precisely which roads are being gritted in bad weather, in their localities, in real time.

In extreme weather events, like the recent Storm Barra and Storm Malik, Transport Scotland uses the ArcGIS Gritter Tracker app internally to support its management of gritting operations. With instant access to live data on the locations of all gritting trucks, together with data on traffic disruption and terrain, all on one screen, the organisation can better manage the resilience of the network and collaborate more effectively with other agencies, including Traffic Scotland and Police Scotland, to help keep Scotland moving.

"The ArcGIS app gives confidence to the general public that our winter service is being provided across the Scottish Trunk Road Network."

Iain McDonald
Network Resilience Manager, Transport Scotland

230
gritting trucks from 9 operating companies tracked in real time in 1 interactive app

37 employees attended one or more live instructor-led virtual learning courses

LEARNING SERVICES

ORDNANCE SURVEY NORTHERN IRELAND KEEPS SPECIALIST SKILLS UP-TO-DATE

By taking advantage of learning services from Esri UK & Ireland, Ordnance Survey Northern Ireland (OSNI) ensures its specialists have the advanced, up-to-date skills they need to advise government departments.

Renowned for its expertise in mapping and geospatial analysis, OSNI invests annually in ArcGIS training. The organisation engages Esri UK & Ireland to deliver a range of courses that enhance employees' knowledge of the latest ArcGIS techniques and features.

Thirty seven employees benefited from ArcGIS learning services in 2021, most of whom work in the Northern Ireland Mapping Agreement Support Team, a specialist group that provides advanced geospatial and mapping services to the Northern Ireland Civil Service. These expert GIS users have worked with the Department of Health and the Executive Office to support the COVID-19 response in Northern Ireland. They have also worked on a variety of schemes with the Department of Infrastructure, using the latest ArcGIS functionality to clarify complex issues like flood risks and help deliver departmental objectives.

Recent courses provided by Esri UK & Ireland for OSNI include 'Getting started with Lidar', 'Creating and Editing Data with ArcGIS Pro,' 'Creating Web Applications using Web AppBuilder for ArcGIS' and 'Sharing GIS Content using ArcGIS.' All of these courses were delivered online due to COVID-19 restrictions, but the virtual format provided the same high quality learning without the usual costs associated with travel to Belfast or Aylesbury. Having updated and advanced its employees' skills throughout the pandemic, OSNI can confidently continue to offer expert services for its public sector partners and stakeholders.

"Esri UK & Ireland's learning services keep our ArcGIS skills up-to-date and enable us to continue to live up to and exceed our reputation as the geospatial and mapping specialists within the public sector in Northern Ireland."

Rico Santiago
Deputy Head of Business Development, Ordnance Survey Northern Ireland

If you or a colleague have an interesting career story to share, contact **education@esriuk.com**

CAREERS WITH GIS ARE VARIED AND REWARDING

Adil Toorawa from Arcadis is one of many young GIS professionals who are sharing their stories via the new Careers with GIS site to inspire more people to pursue a career in GIS.

From informing humanitarian relief planning to supporting the development of Britain's high-speed rail infrastructure, Adil Toorawa has already had an incredibly varied career in the GIS industry. In the eight years since he graduated he has worked for the United Nations in Jordan, helped to digitise power distribution networks in the midlands and supported strategic growth and development teams within a local authority.

Adil Toorawa is now sharing his career experiences with others in an ArcGIS StoryMap to help encourage more people to aspire to a GIS career. His story, available to read on the Careers with GIS website, explains how he started out using GIS to study glacial lakes at university and is now a GIS consultant at the global engineering company Arcadis, where he is working on the development of HS2. In this role, he enjoys being involved in a variety of projects, having the opportunity to work collaboratively with engineers and using GIS to solve problems for clients.

The Careers with GIS website was launched by Esri UK earlier this year to provide students, teachers and parents with more information about the diverse range of careers that are open to young people with an interest in geography, geology and geospatial technology. Adil's story is one of several that are now available for people to discover on the site and more are being added all the time to help inspire the GIS professionals of the future.

"My career in GIS has already been really rewarding. I am keen to encourage future generations to consider GIS careers and find out more about the many varied and exciting opportunities that exist in this fast-developing field."

Adil Toorawa
Adil Toorawa, GIS Consultant, Arcadis

View at: careerswithgis.co.uk

THINK GIS

ESRI UK ANNUAL CONFERENCE | 17 MAY 2022 | QEII CENTRE, LONDON

AGENDA

08:00	Registration							
09:30	**Opening Plenary** Fleming & Whittle, 3rd Floor							
11:00	Break							
	Analytical Insights Churchill Ground floor	**Schools** Albert 2nd floor	**Higher Education** Gielgud 2nd floor	**Technical Showcase** Fleming & Whittle 3rd floor	**Data Visualisation & Mapping** St James 4th floor	**Learning Services Workshops** Westminster 4th floor	**Developers' Forum** Windsor 5th floor	**Collaborative Working** Mountbatten 6th floor
11:40	Driving the development of the digital road network National Highways	Teaching climate change Esri UK	Creating safe and sustainable university campuses Esri UK	Choosing the right app for your map Esri UK	Protecting the nation's countryside and heritage National Trust	Getting started with ArcGIS Pro Esri UK	An Introduction to ArcGIS for developers Esri UK	Combining health, wellbeing and environmental priorities Ribble Rivers Trust
	Automating data processing and analysis workflows in ArcGIS Esri UK				Sharing the secrets of impactful mapping Esri UK			Assessing the devastating impact of Storm Arwen Forest Research
12:20	Lunch							
13:20	Revealing where public investment is most needed Jacobs	Learning the lessons of lockdowns Esri UK	Understanding climate change data Esri UK	Getting the best out of ArcGIS Pro Esri UK	Exploring England's archaeology from the air Historic England	When is a line not just a line - Linear referencing in ArcGIS Pro Esri UK	Embracing deep learning with ArcGIS API for Python Esri UK	Bringing the Commonwealth Games to Birmingham Transport for West Midlands
	Protecting patient access to community pharmacies services NHS SCW CSU				Elevating drone programmes to new heights Argent Related		Discovering what's available with ArcGIS Platform and JavaScript Esri UK	Building collaboration around ArcGIS Hub Esri UK
14:00	Break							
14:30	Making sense of our dynamic world Esri UK	Building rewarding careers with GIS Esri UK	Building rewarding careers with GIS Esri UK	Working efficiently in the field Esri UK	Making residents more aware of flood risks London Borough of Hillingdon	Identifying temporal change in Landsat imagery Esri UK	Getting creative with ArcGIS Runtime SDKs Esri	Keeping projects on track in a digital universe Arcadis
	Creating smarter buildings for the future Tetra Tech				Building a library of engaging stories Esri UK		Introducing the power of Arcade Esri UK	Connecting ArcGIS with your wider business Esri UK
15:10	Break							
15:45	**Closing Plenary** Fleming & Whittle, 3rd Floor							
17:00	Drinks Reception							
18:00								

More information is available at: **esriuk.com/agenda**

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